THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A packer fluid for use in a wellbore containing wellbore fluid, the packer fluid comprising:

an aqueous additive fluid adapted for addition to the wellbore fluid; and

a non-toxic, environmentally acceptable capping fluid wherein, the additive fluid and capping fluid having different densities, the capping fluid having a density lighter than the additive fluid and the wellbore fluid for locating adjacent a frost penetration layer adjacent a top of the wellbore, the additive fluid being miscible with the wellbore fluid, and the capping fluid being substantially immiscible with the additive fluid and the wellbore fluid; and

additives, being at least a corrosion inhibitor, and being dispersible within the additive fluid and the wellbore fluid, and the additives in the additive fluid further being substantially immiscible with the capping fluid.

2. The packer fluid as described in claim 1 wherein the additives further comprise at least one or more of a scale inhibitor, a salt inhibitor, an oxygen scavenger, a non-emulsifier and a biocide.

3. The packer fluid as described in claim 1 wherein the non-toxic environmentally acceptable capping fluid is non-aqueous, immiscible with aqueous fluids, has a pour point between -100°C and 0°C and a density less than 1.0g/L.

4. The packer fluid as described in claim 1 wherein the capping fluid volume is sufficient to fill a depth of the wellbore to the frost penetration layer and the additive fluid volume is calculated to provide about 0.05L of additive fluid per meter depth of the wellbore.

5. The packer fluid as described in claim 2 wherein the corrosion inhibitor comprises a range from 0% to about 50% by weight of the additive fluid.

6. The packer fluid as described in claim 1 wherein the scale inhibitor comprises a range from 0% to about 5% by weight of the packer fluid.

7. The packer fluid as described in claim 1 wherein the salt inhibitor comprises a range from 0% to about 5% by weight of the additive fluid.

8. The packer fluid as described in claim 1 wherein the oxygen scavenger comprises a range from 0% to about 10% by weight of the additive fluid.

9. The packer fluid as described in claim 1 wherein the biocide comprises a range from 0% to about 5% by weight of the additive fluid.

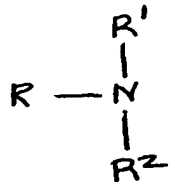
10. The packer fluid as described in claim 1 wherein the non-emulsifier comprises a range from 0% to about 10% by weight of the additive fluid.

11. The packer fluid as described in claim 1 wherein the non-toxic environmentally friendly capping fluid is selected from a group consisting of synthetically cracked hydrocarbons, esters, polyalphaolefins, ethers, food-grade paraffins, linear alpha-olefins, glycols, polyglycols, non-toxic silicone oils, minerals oils, linear alcohols, ethoxylated linear alcohols, non-toxic hydrocarbon condensates and fracturing fluids, natural oils, and mixtures thereof.

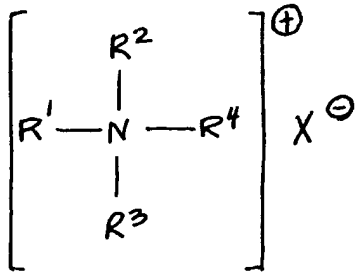
12. The packer fluid as described in claim 11 wherein the non-toxic environmentally friendly capping fluid is a synthetically cracked hydrocarbon.

13. The packer fluid as described in claim 1 wherein the corrosion inhibitor is selected from a group consisting of primary, secondary and tertiary amines, fatty acid amides, quaternary ammonium compounds, imidazoines, imidazolium salts, alkylpyridines, long chain fatty acids, salts of long chain fatty acids, and mixtures thereof.

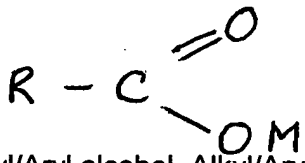
14. The packer fluid as described in claim 1 wherein the corrosion inhibitor is selected from a group consisting of:



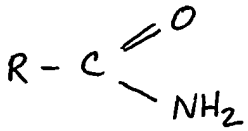
Where R = H, Alkyl or Aryl, R^1 = H, Alkyl or Aryl, R^4, R^3, R^2 = H, Alkyl or Aryl;



Where X^- = balancing anionic salt;

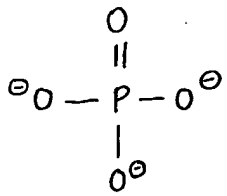


Where M = Alkyl/Aryl alcohol, Alkyl/Aryl Amine or Hydrogen; and

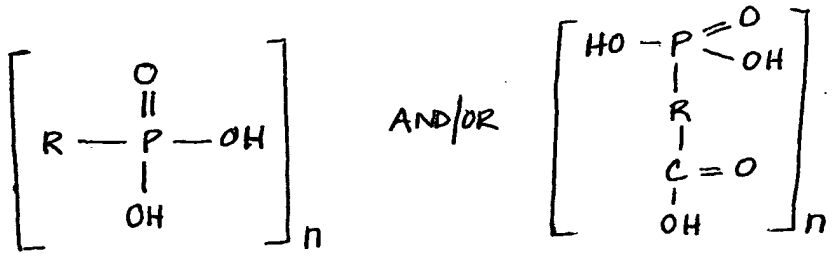


mixtures thereof.

15. The packer fluid as described in claim 2 wherein the scale inhibitor is a phosphorus containing compound having the general formulae:



16. The packer fluid as described in claim 2 wherein the scale inhibitor is a phosphonate having the following structural formulae having the general formulae:



Where: R = H, Alkyl or Aryl and n = integer from 1-10.

17. The packer fluid as described in claim 2 wherein the scale inhibitor is selected from a group consisting of alkali-metal phosphates, alkali-earth metal phosphates, carboxylic acids, salts of carboxylic acids, inorganic phosphate esters, organic phosphate esters, phosphates maleic acid polymer, polymaleic acid copolymers, polymaleic acid terpolymers, phosphino carboxylic acids, sulphonated phosphino carboxylic acids, sulphonated phosphono carboxylic acids, sulphonated polyphosphino carboxylic acids, sulphonated polyphosphono carboxylic acids, acrylic acid polymers, alkyl epoxy carboxylates, and mixtures thereof.

18. The packer fluid as described in claim 2 wherein the scale inhibitor is a phosphonate.

19. The packer fluid as described in claim 2 wherein the scale inhibitor is selected from the group consisting of aminotrimethylenephosphonic acid, hydroxyethylidene diphosphonic acid, diethylene triamine pentamethylene

phosphonic acid, bishexamethylene triaminephosphonic acid, bisaminoethylethanolamine phosphonic acid, and mixtures thereof.

20. The packer fluid as described in claim 2 wherein the salt inhibitor is selected from a group consisting of non-ionic surfactants, demulsifiers glycols, polyglycols, and mixtures thereof.

21. The packer fluid as described in claim 2 wherein the salt inhibitor is a nonyl phenol ethoxylate.

22. The packer fluid as described in claim 2 wherein the salt inhibitor is a linear alcohol ethoxylate.

23. The packer fluid as described in claim 2 wherein the oxygen scavenger is selected from a group consisting of alkali metal sulphites, alkali-earth metal sulphites, alkali metal bisulphites, alkali-earth metal bisulphites, ammonium bisulphite, diethylhydroxylamine, hydrazine, methyl ethyl ketoxime, and mixtures thereof.

24. The packer fluid as described in claim 2 wherein the oxygen scavenger is a catalyzed sodium bisulphite.

25. The packer fluid as described in claim 2 wherein the biocide is selected from a group consisting of bromonitrophenols, phosphonium sulphates, methylchloroisothiazolinone, methylisothiazolinone, hypochlorite ethoxylated amines, ether amines, alkyl aldehydes, aryl aldehydes, primary amines, secondary amines, tertiary amines, quaternary amines, and mixtures thereof.

26. The packer fluid as described in claim 2 wherein the biocide is tetakishhydroxymethyl phosphonium sulphate.

27. The packer fluid as described in claim 2 wherein the non-emulsifier is selected from the group consisting of resin oxyalkylate, diepoxide, alkyl polyol, and mixtures thereof.

28. A fluid for use in a wellbore, the fluid comprising:

a wellbore fluid;

an aqueous additive fluid being miscible with the wellbore fluid;

a non-toxic, environmentally acceptable capping fluid being substantially immiscible with the additive fluid and in the wellbore fluid and having a density lighter than the additive fluid and the wellbore fluid for locating adjacent a frost penetration layer adjacent a top of the wellbore; and

additives being dispersible in the additive fluid and the wellbore fluid and substantially immiscible with the capping fluid, the additives being at least a corrosion inhibitor.

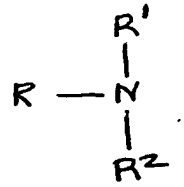
29. The fluid as described in claim 28 further comprising at least one of a scale inhibitor, a salt inhibitor, an oxygen scavenger, a demulsifier and a biocide.

30. The fluid as described in claim 28 wherein the non-toxic environmentally friendly capping fluid is selected from a group consisting of synthetically cracked hydrocarbons, natural oils, esters, polyalphaolefins, ethers, food-grade paraffins, linear alpha-olefins, glycols, polyglycols, non-toxic silicone oils, minerals oils, linear alcohols, ethoxylated linear alcohols, non-toxic hydrocarbon condensates, fracturing fluids, natural oils, and mixtures thereof.

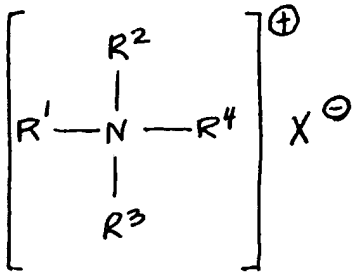
31. The fluid as described in claim 28 wherein non-toxic environmentally friendly capping fluid is a synthetically cracked hydrocarbon.

32. The fluid as described in claim 28 wherein the corrosion inhibitor is selected from a group consisting of primary, secondary and tertiary amines, fatty acid amides, quaternary ammonium compounds, imidazoines, imidazolium salts, alkylpyridines, long chain fatty acids, salts of long chain fatty acids, and mixtures thereof.

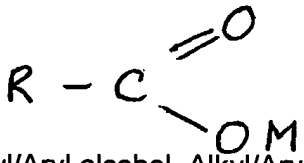
33. The fluid as described in claim 28 wherein the corrosion inhibitor is selected from a group consisting of:



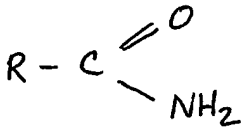
Where R = H, Alkyl or Aryl, R^1 = H, Alkyl or Aryl, R^4, R^3, R^2 = H, Alkyl or Aryl;



Where X^- = balancing anionic salt;

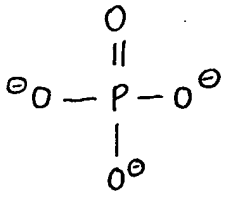


Where M = Alkyl/Aryl alcohol, Alkyl/Aryl Amine or Hydrogen; and



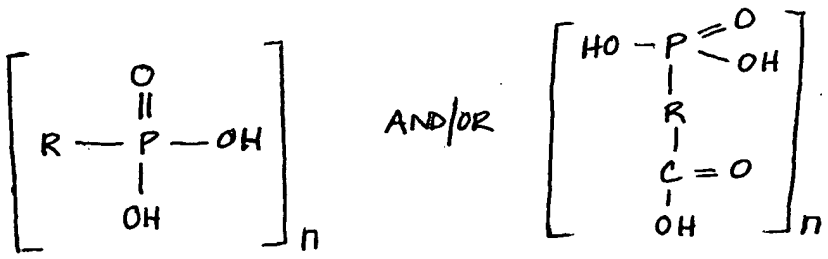
mixtures thereof.

34. The fluid as described in claim 29 wherein the scale inhibitor is a phosphorus containing compound having the general formulae:



35. The fluid as described in claim 29 wherein the scale inhibitor is selected from the group consisting of aminotrimethylenephosphonic acid, hydroxyethylidene diphosphonic acid, diethylene triamine pentamethylene phosphonic acid, bishexamethylene triaminephosphonic acid, bisaminoethylethanolamine phosphonic acid, and mixtures thereof.

36. The fluid as described in claim 29 wherein the scale inhibitor is a phosphonate having the following structural formulae having the general formulae:



Where: R = H, Alkyl or Aryl and n = integer from 1-10.

37. The fluid as described in claim 29 wherein the salt inhibitor is selected from a group consisting of non-ionic surfactants, demulsifiers glycols, polyglycols, and mixtures thereof.

38. The fluid as described in claim 29 wherein the oxygen scavenger is selected from a group consisting of alkali metal sulphites, alkali-earth metal sulphites, alkali metal bisulphites, alkali-earth metal bisulphites, ammonium bisulphite, diethylhydroxylamine, hydrazine, methyl ethyl ketoxime, and mixtures thereof.

39. The fluid as described in claim 29 wherein the oxygen scavenger is a catalyzed sodium bisulphite.

40. The fluid as described in claim 29 wherein the biocide is selected from a group consisting of bromonitrophenols, phosphonium sulphates, methylchloroisothiazolinone, methylisothiazolinone, hypochlorite ethoxylated amines, ether amines, alkyl aldehydes, aryl aldehydes, primary amines, secondary amines, tertiary amines, quaternary amines, and mixtures thereof.

41. The fluid as described in claim 29 wherein the biocide is tetakishhydroxymethyl phosphonium sulphate.

42. A method for treating a cased wellbore containing a wellbore fluid so as to prevent metal corrosion and freezing at a frost penetration layer adjacent a top of the wellbore, the method comprising:

providing an aqueous additive fluid miscible with the wellbore fluid, the additive fluid having additives being dispersible in the additive fluid and the wellbore fluid, the additives being at least a corrosion inhibitor;

dispensing the additive fluid into the wellbore fluid; and

placing a non-toxic, environmentally acceptable capping fluid atop the wellbore fluid, the capping fluid being preventing freezing adjacent the frost penetration layer, the capping fluid being substantially immiscible with the additive fluid and in the wellbore fluid and having a density lighter than the additive fluid and the wellbore fluid, wherein the additives in the additive fluid are substantially immiscible with the capping fluid.

43. The method as described in claim 38 wherein the additives further comprise at least one or more of a scale inhibitor, a salt inhibitor, an oxygen scavenger; a non-emulsifier and a biocide.

44. The method as described in claim 38 wherein the non-toxic environmentally acceptable capping fluid is non-aqueous, immiscible with aqueous fluids, has a pour point between -100°C and 0°C and a density less than 1.0 g/L.

45. A method for treating an annulus of a cased wellbore containing a wellbore fluid, the method comprising:

providing a packer fluid having an aqueous additive fluid adapted for addition to a wellbore fluid, the additive fluid being miscible with the wellbore fluid; a non-toxic, environmentally acceptable capping fluid being substantially immiscible with the additive fluid and in the wellbore fluid and having a density lighter than the additive fluid and the wellbore fluid; and additives being dispersible in the additive fluid and the wellbore fluid and substantially immiscible with the capping fluid, the additives being at least a corrosion inhibitor; and

dispensing the packer fluid into the wellbore fluid wherein,

the additive fluid and additives therein are miscible with the wellbore fluid and the additives are substantially immiscible with the capping fluid; and

the capping fluid is substantially immiscible with the additive fluid and the wellbore fluid and lighter than the wellbore fluid for locating the capping fluid at the top of the wellbore adjacent the frost penetration layer; and

46. The method as described in claim 41 wherein the additives further comprise at least one or more of a scale inhibitor, a salt inhibitor, an oxygen scavenger; a non-emulsifier and a biocide.

47. The method as described in claim 41 wherein the non-toxic environmentally acceptable capping fluid is non-aqueous, immiscible with aqueous fluids, has a pour point between -100°C and 0°C and a density less than 1.0g/L.

48. A method for treating a cased wellbore comprising:

providing a packer fluid having an aqueous additive fluid, a non-toxic, environmentally acceptable capping fluid being substantially immiscible with the additive fluid and having a density lighter than the additive fluid and additives being dispersible in the additive fluid and substantially immiscible with the capping fluid, the additives being at least a corrosion inhibitor;

dispensing the packer fluid into a wellbore fluid, the additive fluid and additives being miscible in the wellbore fluid for forming a packer fluid/wellbore fluid mixture; and

dispensing the packer fluid/wellbore fluid mixture into the casing bore or annulus wherein,

the capping fluid is immiscible with the additive fluid and the wellbore fluid and lighter than the wellbore fluid for locating the capping fluid at the top of the wellbore adjacent the frost penetration layer.

49. The method as described in claim 44 wherein the additives further comprise at least one or more of a scale inhibitor, a salt inhibitor, an oxygen scavenger; a non-emulsifier and a biocide.

50. The method as described in claim 44 wherein the non-toxic environmentally acceptable capping fluid is non-aqueous, immiscible with aqueous fluids, has a pour point between -100°C and 0°C and a density less than 1.0g/L.

51. A kit for treating a cased wellbore containing wellbore fluid, comprising the following components provided in a packaged form:

a first fluid comprising an aqueous additive fluid and additives in a first package, the additives being dispersible in the additive fluid and the wellbore fluid, the additives being at least a corrosion inhibitor; and

a second, non-toxic, environmentally acceptable capping fluid in a second package being substantially immiscible with the additive fluid and having a density lighter than the additive fluid for locating adjacent a frost penetration layer adjacent a top of the wellbore, wherein, the additives are miscible in the wellbore fluid and substantially immiscible with the capping fluid.

52. The kit as described in claim 47 wherein the additives further comprise at least one or more of a scale inhibitor, a salt inhibitor, an oxygen scavenger; a non-emulsifier and a biocide.

53. The kit as described in claim 47 wherein the non-toxic environmentally acceptable capping fluid is non-aqueous, immiscible with aqueous fluids, has a pour point between -100°C and 0°C and a density less than 1.0 g/L.

54. A kit for treating a wellbore to prevent metal corrosion and freezing at a frost penetration layer adjacent a top of the wellbore, the components provided in a unitary packaged form, comprising:

an aqueous additive fluid adapted for addition to a wellbore fluid; and

a non-toxic, environmentally acceptable capping fluid being substantially immiscible with the additive fluid and the wellbore fluid, the additive fluid and capping fluid having different densities, the capping fluid having a density lighter than the additive fluid for locating adjacent the frost penetration layer, the additive fluid being miscible with the wellbore fluid; and

additives, being at least a corrosion inhibitor; the additives being dispersible within the additive fluid and the wellbore fluid, the additives in the additive fluid further being substantially immiscible with the capping fluid.

55. The kit as described in claim 50 wherein the additives further comprise at least one or more of a scale inhibitor, a salt inhibitor, an oxygen scavenger, a non-emulsifier and a biocide.

56. The kit as described in claim 50 wherein the non-toxic environmentally acceptable capping fluid is non-aqueous, immiscible with aqueous fluids, has a pour point between -100°C and 0°C and a density less than 1.0g/L.